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ABSTRACT

This report describes a framework for exploring the processes of resilience in students at Stanton Elementary School, an urban public school in Washington, D.C. Investigators for the Center for Research on the Education of Students Placed at Risk invited Stanton to participate in a study of exposure to stress, including violence, and its relationship to psychosocial and school success, and agreed to become one of the school's community partners and provide information for purposes of professional development and continuous school improvement. The first section of the report describes the current environment in the school and the community; the second discusses Stanton's evolving resilience approach; and the third presents the conceptual framework that links school improvement to student resilience. The report concludes with reflections in the benefits of the approach for Stanton's community of students, family, and staff and considers implications for adapting the framework in other school settings. Three appendixes contain a report on a study assessing risk and protective factors for 263 of Stanton's children, a list of protective factors for Stanton students, and a table showing how Stanton students rate motivation for reading. (Contains 7 tables, 2 figures, and 30 references.) (Author/SLD)

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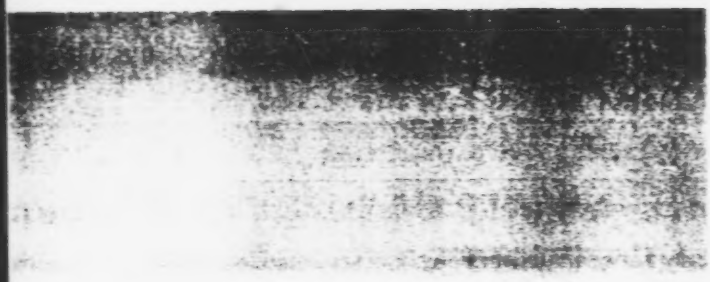

EXPLORING THE DYNAMICS OF RESILIENCE IN AN ELEMENTARY SCHOOL

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Report No. 26

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The Center

Every child has the capacity to succeed in school and in life. Yet far too many children, especially those from poor and minority families, are placed at risk by school practices that are based on a sorting paradigm in which some students receive high-expectations instruction while the rest are relegated to lower quality education and lower quality futures. The sorting perspective must be replaced by a "talent development" model that asserts that all children are capable of succeeding in a rich and demanding curriculum with appropriate assistance and support.

The mission of the Center for Research on the Education of Students Placed At Risk (CRESPAR) is to conduct the research, development, evaluation, and dissemination needed to transform schooling for students placed at risk. The work of the Center is guided by three central themes — ensuring the success of all students at key development points, building on students' personal and cultural assets, and scaling up effective programs — and conducted through seven research and development programs and a program of institutional activities.

CRESPAR is organized as a partnership of Johns Hopkins University and Howard University, in collaboration with researchers at the University of California at Santa Barbara, University of California at Los Angeles, University of Chicago, Manpower Demonstration Research Corporation, University of Memphis, Haskell Indian Nations University, and University of Houston-Clear Lake.

CRESPAR is supported by the National Institute on the Education of At-Risk Students (At-Risk Institute), one of five institutes created by the Educational Research, Development, Dissemination and Improvement Act of 1994 and located within the Office of Educational Research and Improvement (OERI) at the U.S. Department of Education. The At-Risk Institute supports a range of research and development activities designed to improve the education of students at risk of educational failure because of limited English proficiency, poverty, race, geographic location, or economic disadvantage.

Abstract

This report describes a framework for exploring the processes of resilience in students at Stanton Elementary School, an urban public school in Washington, D.C. CRESPAR investigators invited Stanton to participate in a study of exposure to stress, including violence, and its relationship to psychosocial and school success, and agreed to become one of the school's community partners and provide information for purposes of professional development and continuous school improvement.

The first section of the report describes the current environment in the school and the community; the second discusses Stanton's evolving resilience approach; and the third presents the conceptual framework that links school improvement to student resilience. The report concludes with reflections on the benefits of the approach for Stanton's community of students, family, and staff and considers implications for adapting the framework in other school settings.

Acknowledgments

The authors gratefully acknowledge the faculty, staff, parents, and community partners of Stanton Elementary School and the CRESPAR research assistants assigned to the school. Their able and enthusiastic contributions have enriched Stanton's students and inspired us.

Introduction

Inner-city schools are populated by many students eager to learn and succeed academically despite the chronic stress of poverty and the conditions that can accompany lack of resources. Such schools can represent places of hope within communities whose vitality is tested daily by violence, poor health of residents, lack of political clout, deteriorating and boarded-up housing, and substance abuse. An extensive tradition of research on the schools these students attend has been conducted with the intent of identifying effective instructional practices and effective schools.

A more recent body of research on resilience provides a context for examining how individual students respond to risk. Resilience is usually defined as an individual's successful response to risk (Rutter, 1987) and, according to Masten (1994) and Masten, Best, & Garmezy (1990), the term can be applied to three kinds of phenomena: 1) overcoming odds against successful development, 2) sustained competence in the presence of acute or chronic life stressors, or 3) recovery from trauma. In the school context, resilient outcomes are indicated by academic, social, and emotional competence.

Some recent formulations describe resilience as a property of organizations, such as schools and families (Anderson, 1994). Likewise, protective factors and processes can be characteristics of persons and environments. Factors or processes are protective if they contribute to good outcomes in individuals at risk (Rutter, 1987). In students, research has identified many protective factors; among them are cognitive competence (particularly reading), social competence, faith and optimism, a sense of responsibility toward others, and the ability to plan.

Research, as reviewed by Benard (1991), has shown that protective school environments foster protective characteristics in children — the very characteristics that contribute to children's resilience — by establishing *high expectations* for student achievement; providing *opportunities for participation* so that students can be actively engaged in instructional work and in roles of responsibility within the school; and providing *caring and support* through relations with school faculty and staff, peers, and family and community members involved with the school.

In recent years, studies of resilience and research on effective schools have contributed to a reconsideration of ways in which the school can foster competence in children and youths (Benard, 1991; Henderson & Milstein, 1996; Nettles & Pleck, 1994; North Central Regional Educational Laboratory, 1994; Wang & Gordon, 1994; Zimmerman

& Arunkumar, 1994). This report describes a framework for exploring the processes of resilience in students at Stanton Elementary School, an urban public school in Washington, D.C. The impetus for the Stanton framework was a March 1995 meeting of the coauthors and Dr. Hope Hill, also of the Center for Research on the Education of Students Placed At Risk (CRESPAR). At the meeting, the CRESPAR investigators invited Stanton to participate in a study of exposure to stress, including violence, and its relationship to psychosocial and school success. The principal, who began her administration at the start of the 1995-96 school year, described faculty and staff efforts that were consistent with a resilience approach. Subsequent meetings with faculty and parents presented CRESPAR investigators with opportunities to engage in conversations about the constructs and processes that would be explored in the research and the ways in which the research could augment the school's existing plans and activities. However, faculty in particular expressed concerns about hosting a research project rather than an intervention to alleviate some pressing problems that persisted in some segments of the student population. To address these concerns, CRESPAR agreed to become one of the school's community partners and provide information for purposes of professional development and continuous school improvement.

The first section of the report describes the current environment in the school and the community, and the second discusses Stanton's evolving resilience approach. The third part presents the conceptual framework that links school improvement to student resilience. We conclude with reflections on the benefits of the approach for Stanton's community of students, family, and staff and consider implications for adapting the framework in other school settings.

The School and Its Community

The School

Stanton Elementary School is located in southeast Washington, D.C. in a highly commercialized area bordered by three major thoroughfares. As of February 1998, there were 620 students enrolled. According to the school's Title I *Local School Improvement Plan, Update 1997-98*, about 42% of the students are enrolled in prekindergarten, kindergarten, or first grade. All of the students are African American, and the median household income for the school catchment area is $12,000. Approximately 98% of the students are on the free or reduced lunch program. The school has a principal and a vice-principal, 29 teachers, one full-time counselor, a librarian, one building resource teacher who serves as the change facilitator, nine educational

aides, a Title I Parent Coordinator, a part-time psychologist, and 15 support staff (such as clerical, cafeteria, and maintenance staff).

Stanton School has a history of engagement in two concurrent efforts toward creating a caring, supportive environment with high expectations for student success. First, since 1995, the school has undertaken activities which are components of the Comer process (Comer, 1985). The school is still designated a Comer school, and many of the outcomes that the Comer process is intended to achieve overlap with outcomes observed in studies of resilient children (see for example, Winfield, 1991; Werner, 1990; Nettles & Pleck, 1994). Although there has not been a formal evaluation of the Comer process at Stanton, when the resilience framework was introduced in the Spring 1996 semester, major elements of the Comer process were in place, namely community partners and the site-based school improvement team consisting of parents, faculty, and a mental health worker.

Second, the school had been identified during the 1996-97 school year as a targeted assistance school (that is, one needing program improvement to increase student achievement). Title I funds provide programmatic activities to improve student learning. The District of Columbia Public Schools (equivalent to the state education agency, or SEA) requires that the school consult with parents and submit a Title I improvement plan. The plan which was approved for the 1996-97 school year outlined activities toward goals for increased basic and advanced reading and mathematics competence, improved skills in writing, problem solving, and higher order thinking, heightened parent and community involvement, and enhanced professional staff development to reflect emerging reform issues. With the introduction of district-wide emphasis on improved reading and mathematics performance, Stanton's 1997-98 plan identified literacy as the number one priority.

The Community

Although Stanton serves students that come from low-income families, the school is located in a community that has diverse economic circumstances. According to the 1990 Census of Population and Housing, in the school's zip code 23% of families had incomes above $50,000; 29% had incomes between $25,000 and $49,999; and 47% had incomes below $24,000. Thirty-one percent (31%) of families with children under 18 lived below the poverty line; 42% of female-headed families with children under 18 lived below the poverty line.

There is diversity in occupations and educational attainment. Twenty-three percent (23%) were in executive, administrative, and professional specialty occupations. A

substantial minority (42%) were in the combined categories of administrative support positions and service occupations. Of persons in the labor force, about 10% were unemployed (nearly twice the national average in 1990). Of individuals 18 years and older, 35% had not graduated from high school; 33% were high school graduates; 21% had some college education; and 11% had college degrees or graduate and professional degrees.

A variety of housing types may be found in the neighborhood; 86% of the units are occupied. Residents have pressed for economic development, and in 1997, a shopping center was built near the school. The center includes a large food store and several shops, such as a shoe store. In addition, several fast food chains operate within the blocks surrounding the school. The school staff and families have expressed concern about the extent of violence, other crimes, and drugs near the school. In short, the school and its setting have sources of protection and sources of risk.

Applying the Resilience Approach

Stanton's application of the resilience construct integrates and extends the Comer process and the school improvement priorities of Title I/Chapter 1. As discussed below, Stanton is using three strategies to apply the resilience approach: 1) implementing activities to increase resilience; 2) assessing paths to student resilience; and 3) increasing faculty, staff, and parent awareness about resilience and related constructs. We discuss each of the strategies below.

Implementing Activities to Increase Resilience

Stanton is implementing two sets of activities to foster resilience in students: 1) increasing available resources; and 2) mobilizing protective processes in the environment. These are basic strategies used in many interventions, such as Head Start. Evidence of their effectiveness comes from research on the "ingredients" of resilience as identified by Masten (1994). Among these ingredients are the risks or adversities the individual faces and the individual and environmental characteristics that serve as protection against risk. The following describes the specific ways in which the two strategies are being implemented at Stanton.

Increasing resources available to Stanton students. Increasing the resources available to students at risk is a basic activity for many schools. At Stanton, the activity

includes the assembly of resources from the school district as well as the development of community partnerships. Stanton's community partners provide materials, funds, programmatic activities, volunteers, and services on behalf of Stanton's students. For example, instruction in life skills is provided for fifth and sixth grade boys through the Preteen Pregnancy Prevention Program for Boys (sponsored by Concerned Black Men); a Rites of Passage program for 20 fifth graders is sponsored by the Family Medical and Counseling Center; a mentoring program for 35 girls in grades five and six is conducted by the community-based organization Naje/SAFE; and mentoring for sixth grade boys is provided by PROJECT 2000, Inc.

The resources are distributed according to needs identified in plans developed by the school staff and the school improvement team. During 1995-96, resources generated from community organizations were used primarily to renovate the physical plant. For example, the Peace Corps and Trinity United Methodist Church, among others, painted bathrooms, the health suite, and the boiler room hallway. In 1996-97, physical improvements continued with assistance from community partners; however, a sizeable share of community resources were targeted to either motivate students to excel in academic areas or to increase mastery of reading and mathematics. During 1996-97 and 1997-98, additional community partners were recruited to provide, at each grade level, one-to-one tutoring or other forms of student assistance to augment the reading and mathematics programs. For example, volunteers from The Pentagon ("Book Buddies") provide weekly, one-to-one reading experiences for first graders. One church partner conducts The Summer Intensive Reading Program for students in grades three through six and volunteers from a second church partner provide tutoring and remediation in reading and other subjects during the school year. Incentives are offered by two local science and technical organizations, Diversified Engineers and SMART. The Social Security Administration, through its national YouthLink Program, provided 60 computers and software for access to the Internet. Community partners, such as The Pentagon Book Buddies, helped to wire the school. The resources and partners (shown in parentheses) are identified in Table 1.

Mobilizing protective processes. The second set of activities Stanton is using to foster resilience in students is the enhancement of protection in the environment. The activities, shown in Table 1, are grouped according to Benard's (1991) three categories of protective processes: high expectations, opportunities to participate, and caring and support.

Because one of Stanton's priority goals is to foster competence in academic areas, especially reading, many activities which supplement existing instruction have been intro-

Table 1. Activities to Mobilize Protective Processes in the Environment

Protective Process: Establishing High Expectations		
GRADE	**ACTIVITY**	**EXPECTED RESILIENCE OUTCOMES**
K-1	National Institute of Child Health (NICH)	All reading activities:
1	Book Buddies (The Pentagon)	Reading motivation, greater proficiency in reading; movement of children from below basic reading levels to basic level and above
2, 3	Sylvan Learning Systems, Inc. (Reading)	
3-6	Reading Resource Teacher	
	Summer Intensive Reading Program (Allen A.M.E. Church)	
2-6	Tutoring and remediation (Trinity United Church; U.S. Navy Kids Program; Law firm of Pepper, Hamilton, & Scheetz)	
5	Incentives for Science Achievement	
1	D.C. Reads (Tutors from American University)	
Schoolwide	Computers/Internet Access (Social Security Administration, NASA, Department of Transportation)	
Schoolwide	Technology Program	
Schoolwide (staff)	Standards Specialist Coordinator	

Table 1 (continued)

Protective Process: Providing Opportunities to Participate		
GRADE	**ACTIVITY**	**EXPECTED RESILIENCE OUTCOMES**
Schoolwide	WSES (simulated radio broadcast)	Greater proficiency in reading and speaking
	Extracurricular activities (Drama, Double Dutch, Safety Patrol, Dance, choir, Pep Squad, Substance Abuse Program, Student Council, Basketball, Red Cross)	Social competence
	Exposure to soccer, golf, and tennis as part of physical education program (PROJECT 2000, Inc., Concerned Black Men)	
	Trips to cultural events (Concerned Black Men, Washington Performing Arts Society, Kennedy Center)	Sense of responsibility to others
	Community service projects	

Protective Process: Caring and Support		
Schoolwide	Programmatic & financial support (Allen A.M.E. Outreach; Trinity United Methodist Church; PTA; Concerned Black Men; Law Firm of Pepper, Hamilton, & Scheetz)	Increased resources
	Incentives for achievement (SMART: Science Mathematics Aerospace Research Technology; Diversified Engineers)	
Pre-K	Programmatic & financial support (Children's Educational Fund)	
3	Programmatic & financial support (Council of Women's Ministries)	

Table 1 (continued)

Protective Process: Caring and Support		
GRADE	**ACTIVITY**	**EXPECTED RESILIENCE OUTCOMES**
5 - 6 (girls)	Mentors (Naje/SAFE)	Social competence
6 (boys)	Project 2000, Inc.	
	Conflict resolution/peer mediation (Law Firm of Pepper, Hamilton, & Scheetz)	
	Drug/Alcohol Program (Allen A.M.E. Outreach)	
	Substance Abuse Prevention Program (SAPE, Title IV funding)	
4	Learning for Life (Boy Scouts of America)	
5	Rites of Passage (Family Medical & Counseling Center)	
4 - 6	Preteen Pregnancy Prevention Program for Boys (Concerned Black Men)	
Schoolwide (Parents)	Parent Outreach Program	Increased parental support for children's education
	PTA, Parent Academy	
Schoolwide (Staff)	Dissemination of *Stanton Monthly Bulletin*	Higher morale among staff

duced to increase students' mastery experiences. Expected student outcomes include enhanced self-efficacy and greater motivation for and proficiency in reading. Such activities, as shown in Table 1, are to mobilize the protective process of establishing high expectations. For example, the kindergarten and first grade implemented a reading program developed through the National Institute for Child Health and Human Development. The program emphasizes phonemic awareness, literature, and phonics. Volunteers (parents, grandparents, and community partners) participate in the program's reading activities. In grades three through six, the reading resource teacher conducts reading instruction in small groups of the lowest achievers. The Sylvan Reading Lab, a component of the Sylvan Learning Systems program, serves students in the primary grades. The Lab includes special equipment for drill and phonics and for increased reading comprehension, and instruction consists of the Sylvan curriculum, which focuses on basic reading skills.

The second protective process is providing opportunities to participate; the activities are shown in Table 1. One daily activity is Radio Station WSES (Wonderful Stanton Elementary School). In keeping with the school's focus on reading competence, this is a five-minute "broadcast" from the principal's office to all classrooms in the school. Students in Head Start through sixth grade rotate as announcers of school-wide news, birthdays of students and staff, and reading of literary selections and thoughts or affirmations of the day. The theme song for the broadcast is Ray Charles' rendition of "America the Beautiful." Other opportunities for participation include trips to cultural events (sponsored by community partners) and extracurricular activities such as the student council, basketball, and a marching drum unit.

The third protective process is caring and support. As noted in the discussion of the first strategy, community partners provide programmatic and financial support. For example, the law firm of Pepper, Hamilton, and Scheetz trains approximately 30 students per year in peer conflict resolution. Also, the school has a Parent Outreach Program to increase parental support for the children's education.

Research shows that specific activities Stanton is using to enhance protective factors can be effective. Forman et al. (1998) presented evidence of effectiveness for the reading instruction approach that Stanton is using in kindergarten-and grade one, but Mac Iver et al. (1998) found in a two-year evaluation that the Sylvan Learning Systems program yielded mixed results. In the Baltimore City Public Schools, students' reading and math scores increased, but only the math scores increased significantly. Nettles (1991a, 1991b) examined findings from evaluations of community-related programs and found that such programs can foster resilience through the

provision of social support, resources, and instructional activities, such as tutoring. Hawkins et al. (1992) have suggested that the strategy of enhancing protective factors may be an effective one for alleviating problem behaviors, including substance use, risky sexual behavior, and delinquency. Although the alleviation of such behaviors is not a direct goal, Stanton expects that the enhancement of resilience in the early grades will contribute to the alleviation of problem behavior.

Assessing Paths to Student Resilience

The second strategy, assessment of factors associated with individual resilience, is part of data collection in three Washington, D.C. schools in CRESPAR's study of the influence of perception of violence and other stress on school-related outcomes. Student participants were enrolled in third and fourth grades in 1996-97 and attended schools in the southeast quadrant of the city.

CRESPAR researchers began the study in 1995 with an extensive literature review that resulted in the development of a conceptual framework of individual resilience. As shown in Figure 1, this framework included four components: 1) the risk/protective environment, 2) meaning, 3) student investments, and 4) outcomes. The risk/protective environment includes perceptions of interactions and resources within specific contexts, such as the neighborhood, the family, and the peer group, or within a combination of contexts. In turn, perceptions of the environment as risk-laden or protective shape individual meaning, defined as self-related beliefs and reasons for engaging or not engaging in academic tasks. Individual meaning influences options for action (student investments), such as effort at classwork and attending school. The results of these choices can be adaptive (resilient) or maladaptive outcomes.

The conceptualization described above was influenced by the theoretical models of community effects on student attainment (Nettles, 1991b), adolescent risk-taking behavior (Levitt et al., 1991), and educational risk and resilience (Connell et al.,1994). The models differ primarily in the choice of specific variables and in the way in which the action component is defined.

The framework in Figure 1 guided the selection of measures. Measures of the perceived risk/protective environment included The Social Support Scale – Revised (Dubow & Ullman, 1989), which assesses the child's appraisals of peer, family, and teacher support; Life Events and Circumstances (Pryor-Brown & Cowen, 1989), an instrument which assesses stressful events that have occurred in the child's life in the past year (for example,

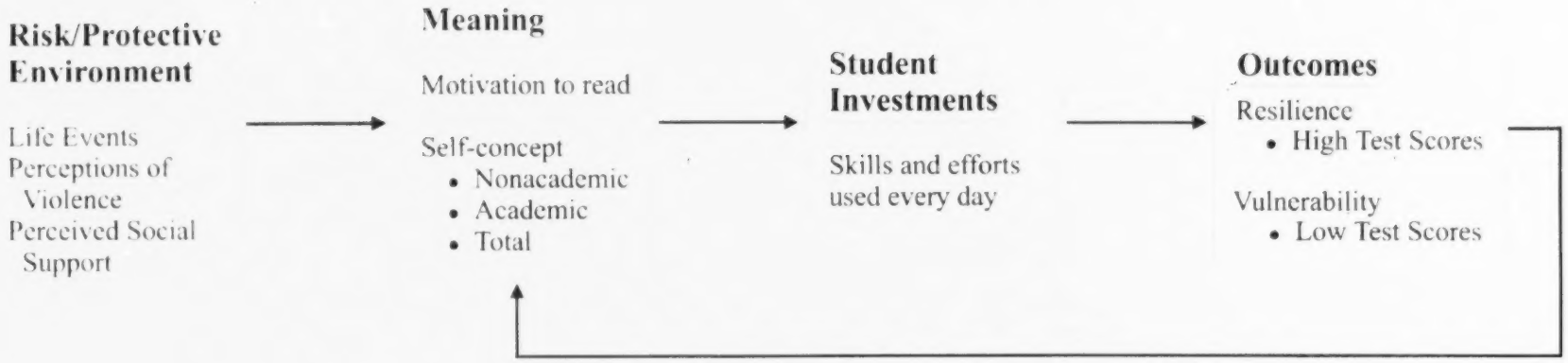
the loss of job by a parent), and the Perceptions of Environmental Violence Scale (Hill, 1991), a set of items that measures the child's perception of violence in the home, the school, and the neighborhood. Measures of meaning included the Self-Description Questionnaire (Marsh et al., 1990), an instrument that assesses seven dimensions of self concept (including reading and mathematics) and the Motivations for Reading Questionnaire (Wigfield, Guthrie, & McGough, 1996), which taps different aspects of children's reasons for reading (e.g., reading efficacy, importance of reading). Student investments will be measured by teacher ratings of classroom behavior and resilient outcomes by scores on the ninth edition of the Stanford Achievement Test Series (Stanford 9), the standardized instrument used in the District of Columbia Public Schools. The source of data for these measures will be school archival records. A complete set of measures is available on students enrolled at Stanton during 1996-97 in grades three and four. These data will be used in the CRESPAR study on perceptions of violence and school outcomes.

At the school's request, measures of hypothesized resiliency (protective) factors, such as the Self-Description Questionnaire, were administered in classroom to Stanton students in grades two through six. Data collection procedures and descriptive analyses are described in Appendix A. As discussed next, those data were used to increase staff awareness of the strengths children bring to and develop in the school context. Providing such data is congruent with the strategy of mobilizing protective processes, specifically the process of establishing positive expectations for students' success.

Increasing Awareness and Understanding

The first event of the Stanton/CRESPAR partnership was the one-day staff development retreat in August 1996. CRESPAR staff designed the retreat, which featured topics requested by the principal and faculty, to introduce and illustrate the constructs of risk, resilience and protection. In one of three sessions, for example, participants used Benard's (1991) threefold categorization of protective factors (high expectations, opportunities for participation, and caring and support) to generate concrete examples of such factors in the Stanton school and community and in children's families. In a second session, participants discussed the family as a source of protection and of risk, and in the third session, participants discussed the risks that substance use presented for students and families.

Figure 1. A Framework for Examining Environment and Individual Factors that Influence Resilient Outcomes



Two professional development workshops, in September 1997 and in April 1998, presented opportunities to build on the understandings of the initial workshop, to present the results of research data collected from Stanton students during the 1996-97 academic year, and to discuss Stanton's progress in implementing activities to foster resilience in students. For example, at the September workshop, the handout in Appendix B was distributed to faculty and parents. The handout summarizes how Stanton students described themselves on four protective factors: ability to form positive relationships, love of learning, self-motivation, and self-worth and competence. The handout in Appendix C was distributed to teachers at the April workshop and shows how students in each grade ranked motivations to read. Rankings ranged from 1 (reflecting the highest average on a motivation scale) to 11 (the lowest average on a motivation scale). All grades had the highest average score on the importance of reading, and extrinsic reasons were also rated highly. Students in grades two and six on average reported higher efficacy in reading than students in other grades.

Other efforts to inform the faculty and staff include making reference materials on resilience and other topics available in the school's library, and informal conversations on resilience throughout the school year between CRESPAR researchers and school personnel.

The Stanton Case Study

As the collaborative relationship between Stanton and CRESPAR deepened, we realized that the school's increased actions to provide a protective environment would have to become part of the conceptual framework. As shown in Figure 2, the current framework expands the risk/protective environment to include not only students' perceptions of social support and stress, but the school organization and school-initiated activities as well. The figure may be summarized in the following propositions.

1. ***Schools can implement activities that mobilize protective processes and mitigate risk factors when the school environment is orderly and safe.*** A stable level of school organization is one of the prerequisites for successful implementation of innovative programs (Gottfredson & Gottfredson, 1985). We are examining the school's role in fostering student resilience through direct observations in the school, a comparison of plans and accomplishments, and review of documents produced by the school. We will compare results of qualitative analyses of school organization with teacher responses on the *Effective School Battery* (ESB, Gottfredson, 1991).

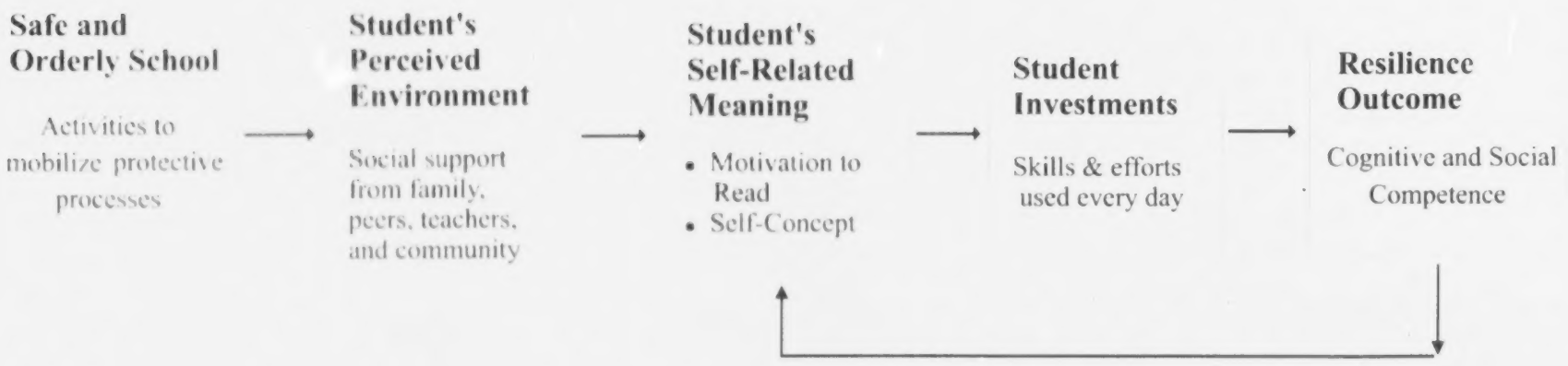
The remaining propositions are ones that the CRESPAR research project is exploring in Stanton's students:

2. ***Students will view the environment as supportive when school resources are increased and activities that enhance protective factors are implemented as designed.***
3. ***Students can view themselves as competent and motivated when they feel supported by parents, the school, and the community.***
4. ***Students' everyday efforts can increase when they view themselves as competent and motivated.***
5. ***Resilience in school settings can occur when students' everyday efforts are increased.***

Evidence from research on adolescent populations suggests that Stanton's conceptualization of resilience may be a fruitful one. For example, the educational risk and resilience model (Connell, Spencer, & Aber, 1994) was validated in three separate samples of African American young adolescents living in high-risk environments. The four components of the model are (1) context, (2) self (or meaning-making processes), (3) action, and (4) academic-related outcomes. The investigators found that student perceptions of parental involvement (a contextual variable) influenced self-appraisals (i.e., general self-concept, efficacy in school, and perceived quality of interpersonal relationships). These self processes influenced emotional engagement (e.g., satisfaction with school) and behavioral engagement (e.g., doing homework). Depending on the level of engagement, outcomes were negative (e.g., low grades) or positive (e.g., high attendance).

We are using the single-case design (Yin, 1989) to test the hypothesized paths to resilience shown in Figure 2. Questionnaire responses from Stanton students in grades two through six will be analyzed. To determine effectiveness of the approach in accomplishing school-wide changes in academic competence, we will use changes in normal curve equivalents (NCEs) on the Stanford 9 reading and mathematics subtests. NCEs are the metric used in reporting achievement gains in Title I programs. Moreover, we will compare changes in proportions of students who met defined performance standards on the Stanford 9. We discuss results on school-wide impact below.

Figure 2. The Current Stanton Framework



Impact on Student Achievement

As discussed earlier, Stanton targeted district and community resources toward mobilizing protective processes, primarily those pertaining to competence in reading and mathematics. To gauge the school's progress, changes in normal curve equivalents (NCEs) were examined for grades two through six on the Stanford 9. The school staff administered the test in October 1997 (fall) and April 1998 (spring). First graders were given the fourth edition of the Stanford Early School Achievement Test in the fall and the Stanford 9 in the spring. As shown in Table 2, the reading gains from fall to spring in grades two through six were 11 to 21 NCEs. The mathematics gains in these grades ranged from 13 to 30. As shown in Table 2, the reading NCE gain was 4.1 and the mathematics gain was 18.1.

Table 2

Mean National Normal Curve Equivalents on Reading and Mathematics Subtests of the Stanford 9

	Subtest					
	Reading			Mathematics		
Grade	Fall 1997	Spring 1997	Change	Fall 1997	Spring 1997	Change
1	43.9*	48.0	4.1	32.5*	50.6	18.1
2	25.4	37.4	12.0	16.6	47.0	30.4
3	21.6	43.4	21.8	19.9	50.5	30.6
4	24.0	35.3	11.3	27.0	41.1	14.1
5	19.2	34.8	15.6	17.9	35.1	17.2
6	29.0	41.3	12.3	25.7	42.9	17.2

*NCEs on the subscales of the 4th edition of the Stanford Early School Achievement Test Series

The Stanford 9 report also presents student performance according to four categories or levels defined by expert panels: 1) Below Basic (little or no mastery of knowledge and skills); 2) Basic (partial mastery); 3) Proficient (prepared for the next grade); and 4) Advanced (superior performance). School-wide (grades two through six combined) changes were examined according to two categories of performance standards, 1) Below basic and 2) Basic, proficient, and advanced. Table 3 shows the frequencies and percentages of students below basic in reading

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Table 2
Mean National Normal Curve Equivalents on
Reading and Mathematics Subtests of the Stanford 9

	Subtest					
	Reading			Mathematics		
Grade	Fall 1997	Spring 1998	Change	Fall 1997	Spring 1998	Change
1	43.9*	48.0	4.1	32.5*	50.6	18.1
2	25.4	37.4	12.0	16.6	47.0	30.4
3	21.6	43.4	21.8	19.9	50.5	30.6
4	24.0	35.3	11.3	27.0	41.1	14.1
5	19.2	34.8	15.6	17.9	35.1	17.2
6	29.0	41.3	12.3	25.7	42.9	17.2

*NCEs on the subscales of the 4th edition of the'Stanford Early School Achievement Test Series

Table 3
Performance Levels on the Reading Subtest of the Stanford 9

	Standard			
	Below Basic		Basic & Above	
Test Date	n	%	n	%
Fall 1997	152	57	116	43
Spring 1998	133	41	188	59

Note: Percentages are calculated across the rows.

Table 4
Performance Levels on the Mathematics Subtest of the Stanford 9

	Standard			
	Below Basic		Basic & Above	
Test Date	n	%	n	%
Fall 1997	208	73	78	27
Spring 1998	125	39	196	61

Note: Percentages are calculated across the rows.

at the fall and spring administrations respectively and students who scored at basic levels and above; Table 4 shows the frequencies and percentages in each category for mathematics.

Table 3
Performance Levels on the Reading Subtest of the Stanford 9

	Standard			
	Below Basic		Basic & Above	
Test Date	n	%	n	%
Fall 1997	152	57	116	43
Spring 1997	133	41	188	59

Note: Percentages are calculated across the rows.

Table 4
Performance Levels on the Mathematics Subtest of the Stanford 9

	Standard			
	Below Basic		Basic & Above	
Test Date	n	%	n	%
Fall 1997	208	73	78	27
Spring 1997	125	39	196	61

Note: Percentages are calculated across the rows.

Changes from fall to spring on both subtests were significant. On the reading subtest, 57% of students taking the test in the fall were below basic, and of students taking the test in the spring, 41.4% were below basic, χ^2 (1, N = 589) = 14.14, $p < .05$. In mathematics, 73% of students taking the test in the fall were below basic level, and in the spring 39% were below basic, χ^2 (1, N = 607) = 68.07, $p < .05$.

Conclusion

The resilience approach at Stanton started as a straightforward research study, wherein the researchers would come to the school, collect the data, and report the results to the faculty. Instead, resilience is emerging as an organizing principle that gives Stanton a means of integrating school improvement, regular and enhanced curricular offerings, and processes that emphasize caring, high expectation, and opportunity. Moreover, resilience orients our thinking toward an optimistic view of our students' prospects. Elementary school children do not describe themselves as being at risk: someone assesses certain factors and applies the label. Indeed, Stanton sees the problem and deficit-focused language of risk as fundamentally at odds with the goals of school improvement. But until schools adapt a different paradigm — and to us the resilience approach is a new paradigm — we will continue to see children in urban schools as problems in the present and the future.

Although the resilience emphasis has emerged over two and a half years at Stanton, other schools might take an abbreviated route. The essential ingredients are a willingness to examine a new way of thinking, an organizational readiness to fill in the gaps in protective processes through use of effective instructional programs and involvement of parent and community partners, and a way of assessing student factors related to resilience. A teacher checklist for recording information on individual students' resiliency factors is described in Sagor (1996), and Henderson and Milstein (1996) suggest ways of developing profiles of student, faculty, and organizational resilience. We are attempting to identify reliable measures of student protective factors, and future plans call for providing teachers with information on ways to administer select measures, to interpret the data on individual students, and to use data to implement strategies to foster student resilience. We are also examining ways to share the information with families, who too often get dismal news about children's progress.

We have outlined the ways in which one school, Stanton Elementary, is embracing the resilience approach. We do not view this as another program to improve test scores and grades, although the results thus far are promising. Rather, we see this as a way of giving meaning to the phrase, "building on children's strengths." We do this first by assessing the child's view of the environment as caring or threatening and then by identifying protective factors within the child. Stanton is beginning to use this information to understand the inner strengths that children bring with them to school, to create a more accurate picture of the stress that the school can alleviate in their lives, and to fine-tune activities that will make Stanton a more caring, protective school environment for all students.

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Appendix A

Assessing Risk and Protective Factors

This appendix presents descriptive data on four questionnaires administered to groups of students at Stanton Elementary School in Washington, D.C. These questionnaires include three measures to assess protective (resiliency) factors, including the Social Support Appraisal scale, the Self-Description Questionnaire, and the Motivations for Reading Questionnaire. In addition, a measure of stress, the Life Events and Circumstances scale, was administered.

Method

Participants

Participants were 263 children in the second through sixth grades. Parents were notified of the assessment according to guidelines in the District of Columbia Public Schools memorandum, Collaborative Partnership with the Center for Research on the Education of Students Placed At Risk, December 8, 1995.

Procedure

Students completed paper-and-pencil measures in their classrooms monitored by four research assistants (3 female and 1 male). All the measures were read aloud to minimize any problems related to reading. The research assistants worked in pairs. While one research assistant read aloud, the other assistant walked around the classroom checking to make sure that the students were following directions, not skipping ahead, or checking more than one response. The teachers were asked to leave the classroom during the questionnaire session to protect the students' confidentiality.

Data were collected in October and November of 1996 and in January of 1997.

Measures

The Social Support Appraisal Scale – Revised (Dubow & Ullman, 1989) is a 41-item pencil-and-paper instrument that assesses the child's appraisals of peer, family, and teacher support. Items were developed to reflect an individual's conceptualization of social support — information indicating to the individual that he or she is valued and esteemed by others. Sample items illustrating the content of the three major subscales include: peer items (e.g., whether the

child feels left out by his/her friends), family items (e.g., whether the child is an important member of his/her family), and teacher items (e.g., whether the child feels his/her teachers are good to ask for advice or help about problems). The following sample item illustrates the format of each item: "Some kids feel left out by their friends, but other kids don't. Do you feel left out by your friends?" The child responds to each item on a 5-point continuum (1 = always, 5 = never). Dubow and Ullman (1989) reported an internal consistency reliability (Cronbach's alpha) of .88 and 3-4 week test-retest reliability of .75.

The Self-Description Questionnaire-I (SDQ-I, Marsh et al.,1990) is designed to measure seven dimensions of self-concept. The instrument consists of 72 short items to which students respond to along a 5-point response scale where 1 = "false," 5 = "true." The following is a brief description of each of the seven subscales:

1) Physical abilities/sports, on which students rate their ability and enjoyment of physical activities, sports, and games.

2) Physical appearance, wherein students rate their own attractiveness, how their appearance compares with others, and how others think they look.

3) Relationship with peers, wherein students rate how easily they make friends, their popularity, and whether others want them as a friend.

4) Relationship with parents, wherein students rate how well they get along with their parents, whether parents are easy to talk to, like them, and whether they like their parents.

5) Reading, on which students rate their ability and their enjoyment/interest in reading.

6) Mathematics, wherein students rate their ability and enjoyment/interest in mathematics.

7) General school subjects, on which students rate their ability and enjoyment/interest in "all school subjects."

The SDQ-I includes three composite scores: (1) Total Nonacademic Self-Concept, which is the mean of responses to the physical abilities, physical appearance, relations with parents, and relations with peers scales; (2) Total Academic Self-Concept, which is the mean of responses to the reading, mathematics, and generals chool scales, and (3) the Total Self-Concept, the mean of the responses to the seven factors named above.

The Motivations for Reading Questionnaire (MRQ; Wigfield, Guthrie & McGough, 1996) is a 54- item questionnaire that assess different aspects of children's motivation for reading. MRQ consists of 11 subscales, with each item a short sentence to which the child responds to on a 4-point scale (1 = very different from me, 4 = a lot like me). The 11 subscales are as follows: Reading efficacy (e.g., I am a good reader), Reading challenge (e.g., I usually learn difficult things

by reading), Reading curiosity (e.g., I like to read about new things), Aesthetic enjoyment of reading (e.g., I read stories about fantasy and make believe), Importance of reading (e.g., it is very important to me to be a good reader), Compliance (e.g., I read because I have to), Reading recognition (e.g., I like having the teacher say I read well), Reading for grades (e.g., I read to improve my grades), Social reasons for reading (e.g., I often read to my brother or my sister), Reading competition (e.g., I like being the best at reading), and Reading work avoidance (e.g., I don't like vocabulary questions).

Internal consistency reliabilities of these scales were mostly greater than .70 save for reading efficacy, importance of reading, reading recognition, compliance, and reading work avoidance (Wigfield, Guthrie, & McGough, 1996).

The Life Events and Circumstances Scale (Pryor-Brown & Cowen, 1989) is a 22-item instrument that assesses stressful life events that have occurred in the child's life within the past year (e.g., child changed schools, best friend moved out of town, loss of job by parent). The following sample items illustrate the format of each item: "I had to change to a new school," "My best friend moved out of town." The child responds in a dichotomous way-by checking either 'yes' or 'no.' Nineteen of the items represent events over which the child has very little or no control (e.g., parents separated, parent lost a job). These items are thus less likely to be confounded with the resiliency outcomes as compared to the three events such as "a bad mark on a test."

Results

Descriptive Statistics

Table A1 presents the means, standard deviations, and ranges of each of the measures. Students in the combined sample reported an average of 7.03 stressful life events. The second, third, and fourth grade averaged 7.63, 7.48, and 7.14 life events respectively. Fifth and sixth graders reported lower mean life events (6.04 and 6.95 respectively). Second grade students reported the highest mean level of perceived social support (170.3) and fourth graders the lowest (159.9). The mean score for the combined sample was 163.49.

Scores on the Self-Description Questionnaire for the combined sample were 36.09, 36.02, and 35.79 for the Total Nonacademic, Total Academic, and Total Self scores, respectively. These means were higher than those (31.77 for Total Nonacademic, 29.53 for Total Academic, and 30.89 for Total Self) reported for the normative sample of 3,562 children in New South Wales, Australia (Marsh, 1990).

Table A1

Means, Standard Deviations, and Ranges of Study Variables for the Combined Samples and for Each Grade

Variables		Combined Sample	GRADES 2	3	4	5	6
Perceived Social Support	M	163.49	170.3	159.9	158.2	162.3	166.1
	SD	24.68	24.6	23.4	24.2	24.9	25.5
	Range	90-205	90-203	100-193	115-201	101-205	101-205
	N	252	68	58	46	46	34
Life Events	M	7.03	7.63	7.48	7.14	6.04	6.95
	SD	3.69	3.32	3.24	4.47	3.83	4.31
	Range	0-22	1-15	1-14	0-23	0-19	0-22
	N	259	68	56	50	48	37
Total Nonacademic	M	36.09	38.63	35.90	34.90	35.2	34.4
	SD	4.09	1.89	4.38	4.00	4.34	4.43
	Range	15-40	32-40	15-40	23-40	21.40	24-40
	N	233	60	53	45	42	33
Total Academic	M	35.07	38.63	35	33.4	33.3	33.3
	SD	5.28	2.74	5.01	1.90	4.19	5.84
	Range	12-40	21-40	15-40	23-39	12-40	23-40
	N	233	60	53	45	42	33
Total Self	M	35.79	38.88	35.7	34.2	34.6	34.1
	SD	4.41	2.09	4.47	4.05	4.91	4.54
	Range	15-40	27-40	15-40	23-40	17-40	24-40
	N	233	60	53	45	42	32
Motivations for Reading	M	34.68	36.96	35.54	34.40	33.85	31.34
	SD	4.63	2.98	4.21	3.68	4.48	4.98
	Range	9-40	28-40	19-40	23-39	18-40	20.39
	N	256	69	56	47	47	35

* $p < 0.10$** $p < 0.05$*** $p < 0.01$

Mean total scores on the Motivations for Reading questionnaire were 34.69 for the combined sample (grades 2 through 6); 36.96, 35.54, and 34.4 for the second, third, and fourth grade cohorts respectively, and 33.86 and 31.34 for the fifth and sixth grades respectively.

Correlations Among Study Variables

Table A2 presents the intercorrelations among study variables for all the students in the sample. Perceived social support was significantly correlated with motivations for reading and academic self concept. However, social support was not related to total nonacademic and total self scores. Social support and life events were negatively correlated; students in the combined sample who reported a high level of stressors also perceived that social support was low. Life events were unrelated to each of the self-related beliefs and attitudes.

The table shows high correlations, as expected, between the components of the Self Description Questionnaire (total nonacademic, total academic, and total self). These self conceptions were also positively related to motivations for reading scores, but the associations were modest.

Table A2
Intercorrelations, Significance Levels, and Sample Size of All Study Variables (Grades 2-6)

Variables		1	2	3	4	5	6
1. Perceived Social Support	r	—	0.24***	0.07	0.14**	0.10	0.18***
	N	252	249	222	222	222	248
2. Life Events	r		—	0.07	0.10	0.09	0.09
	N		259	231	231	231	254
3. Total Nonacademic	r			—	0.71***	0.89***	0.15**
	N				233	233	227
4. Total Academic	r				—	0.92***	0.16***
	N					233	227
5. Total Self	r					—	0.17***
	N					233	227
6. Motivations for Reading	r						—
	N						256

*p < 0.10 **p < 0.05 ***p < 0.01

Appendix B

Handout Distributed at Professional Development Retreat, September 1997

PROTECTIVE FACTORS IN STANTON STUDENTS

Ability to Form Positive Relationships

Of the many ways that Stanton students describe themselves, in all grades except the 3rd grade, Parent Relations ranked highest. Children thought they got along well with parents, liked them, and experienced parental acceptance and approval.

Love of Learning

Ability, enjoyment, and interest in reading (3rd and 4th graders) and math (2nd and 6th graders) ranked high (3rd of 6) on the list of dimensions of self-concept.

Self-Motivation

The number one motivation for reading among Stanton students is the importance of reading. Their desire for outperforming others ranked second among the motivations.

Self-Worth and Competence

On the dimensions of self-concept, physical attractiveness ranked second. Other dimensions included physical abilities, peer relations, parent relations, reading, and mathematics.

Overall, Stanton students perceived themselves as capable and proud of the way they were.

Appendix C

Handout Distributed to Stanton Faculty

Table 1. How Stanton Students Rate Motivations for Reading

Motivation Scale	Sample Item	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Importance of Reading	"It is very important to me to be a good reader."	1	1	1	1	1
Reading Competition	"I like being best at reading."	2	2	2	4	3
Reading for Grades	"I read to improve my grades."	4	3	3	2	2
Reading for Recognition	"I like having the teacher say I read well."	5	4	4	6	3
Reading Efficacy	"I am a good reader."	3	7	5	7	3
Reading Curiosity	"I like to read about new things."	5	6	6	3	6
Reading Involvement	"I make pictures in my mind when I read."	5	4	7	5	5
Reading Challenge	"If a book is interesting, I don't care how hard it is to read."	7	8	7	8	4
Social Reasons for Reading	"I often read to my brother or my sister."	6	5	7	10	8
Compliance	"I read because I have to."	8	9	8	9	7
Reading Work Avoidance	"I don't like vocabulary questions"	9	10	9	11	9

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